

 In the Claims:

Please amend claim 1 as follows:

1. (Amended) A graphite archery arrow having an elongate shaft, a fletching portion at [one] a first end of the shaft, and a tip portion at [the opposite] a second end of the shaft, the shaft comprising:

- a1
- (a) a plurality of graphite fibers longitudinally oriented along the shaft;
  - (b) a plurality of graphite fibers biased to the longitudinally oriented graphite fibers; [and]
  - (c) a binder holding together the longitudinally oriented graphite fibers and the biased graphite fibers; and
  - (d) the shaft further comprising a parallel portion adjacent the second end and a tapered portion between the parallel portion and the first end, the diameter of the tapered portion gradually and continuously decreasing from the parallel portion and the tapered portion forming the fletching portion.

Claims 2-6 as originally filed, are as follows:

- 2. The graphite archery arrow of claim 1, wherein the biased graphite fibers are substantially normal to the longitudinally oriented graphite fibers.
- 3. The graphite archery arrow of claim 1, wherein the longitudinally oriented graphite fibers have a fiber area weight of about 120 g/m<sup>2</sup>.
- 4. The graphite archery arrow of claim 3, wherein the biased graphite fibers have a fiber area weight of about 70 g/m<sup>2</sup>.

5. The graphite archery arrow of claim 1, wherein the binder is a thermoplastic epoxy resin.

6. The graphite archery arrow of claim 1, further comprising four layers of longitudinally oriented graphite fibers and two layers of biased graphite fibers.

Please cancel claims 7 and 8.

Please amend claims 9 and 10 as follows:

a<sup>2</sup> ~~7-9~~ (Amended) The graphite archery arrow of claim [7] 1, wherein the parallel portion is about 40% of the shaft length and the tapered portion is about 60% of the shaft length.

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10. (Amended) A graphite archery arrow having an elongate shaft, a fletching portion at [one] first end of the shaft, and a tip portion at [the opposite] a second end of the shaft, the shaft comprising a parallel portion adjacent the second end and a tapered portion between the parallel portion and the first end, the diameter of the tapered portion gradually and continuously decreasing from the parallel portion and the tapered portion forming the fletching portion.

Please cancel claim 11.

Claim 12 as originally filed, is as follows:

12. The graphite archery arrow of claim 10, wherein the parallel portion is about 40% of the shaft length and the tapered portion is about 60% of the shaft length.

Claims 13-16 are withdrawn from further consideration.



### RESPONSE

This paper is being filed in response to the Office Action mailed April 12, 2000.

Reconsideration of the application as amended is respectfully requested.

#### **Prior Art Rejections**

- (a) The Office Action rejected claims 1, 2, and 5 under 35 USC §102(b) as being anticipated by "Gold Tip" advertisement. Applicant traverses the rejection.

A single prior art reference anticipates a claimed invention only if it discloses each and every claim element.<sup>1</sup>

As to amended claim 1, "Gold Tip" does not disclose the claimed arrow with a parallel portion adjacent the second end and a tapered portion between the parallel portion and the first end, the diameter of the tapered portion gradually and continuously decreasing from the parallel portion and the tapered portion forming the fletching portion.

Claim 1 is allowable. Claims 2 and 5 are allowable in that they contain additional elements or limitations beyond an allowable independent claim.

- (b) The Office Action rejected claims 3, 4 and 6 under 35 USC § 103 as being unpatentable over the "Gold Tip" advertisement. Applicant traverses the rejection.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.<sup>2</sup> If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.<sup>3</sup>

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<sup>1</sup>*Structural Rubber Prod. Co. v. Park Rubber Co.*, 749 F.2d 707, 223 USPQ 1264 (Fed. Cir., 1984)

<sup>2</sup>MPEP Sec. 2142.

<sup>3</sup>Id.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.<sup>4</sup>

Applicant respectfully traverses the § 103 rejection because the office action has not established a *prima facie* case of obviousness.

Claims 3, 4 and 6 are allowable in that they contain additional elements or limitations beyond allowable claim 1.

(c) The Office Action rejected claims 7 and 8 under 35 USC § 103 as being unpatentable over the "Gold Tip" advertisement in view of Giles. Applicant traverses the rejection.

Claims 7 and 8 have been cancelled.

(d) The Office Action rejected claims 10 and 11 under 35 USC § 102(e) as being anticipated by Giles. Applicant traverses the rejection.

Claim 10 is allowable for the reasons argued above in regard to claim 1.

Claim 11 is allowable in that it contains additional elements or limitations beyond allowable claim 10.

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<sup>4</sup>Id. (emphasis supplied)

(e) The Office Action rejected claims 1, 7 and 9-12 under 35 USC § 102(b) as being anticipated by the French patent '228. Applicant traverses the rejection.

Claim 1 is allowable as stated above in regard to the "Gold Tip" advertisement. The French '228 patent also does not contain the enumerated limitations.

Claim 7 has been cancelled.

Claim 9 is allowable in that it contains additional elements or limitations beyond allowable claim 1.

Claim 10 is allowable for the same reasons as claim 1.

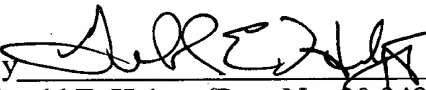
Claim 11 has been cancelled.

Claim 12 is allowable in that it contains additional elements or limitations beyond allowable claim 10.

In view of the above, allowance of all claims is respectfully requested. Issuance of the formal Notice of Allowance is earnestly solicited.

Respectfully submitted,

Dated: 7 June 00

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